

## CLAIMS

What is claimed is:

1. A method, comprising:  
processing a request for a voltage overshoot or undershoot to determine a plurality of inputs based, in part, on a plurality of waveform parameters;  
applying the plurality of inputs to a waveform generation circuit; and  
generating a voltage waveform in accordance with at least one of the parameters.
2. The method of claim 1 wherein the waveform generation circuit comprises an overshoot waveform generation circuit, and the waveform parameters comprise voltage overshoot waveform parameters.
3. The method of claim 1 wherein the waveform generation circuit comprises an undershoot waveform generation circuit, and the waveform parameters comprise voltage undershoot waveform parameters.
4. The method of claim 1 wherein the waveform parameters are selected from the group consisting of a magnitude, a duration, a frequency, and a duty cycle.
5. The method of claim 1 wherein processing the request comprises determining an oscillation frequency.

6. The method of claim 1 wherein processing the request comprises determining a reference voltage for a comparator circuit.
7. The method of claim 1 wherein processing the request comprises determining a voltage value to apply to a delay circuit.
8. The method of claim 1 wherein processing the request comprises determining a voltage value to apply to a voltage controlled oscillator.
9. The method of claim 1 wherein processing the request further comprises processing the request based, in part, on the characteristics of the waveform generation circuit.
10. The method of claim 1 further comprising generating a circuit reliability model for a device coupled to the waveform generation circuit.
11. A circuit for generating voltage overshoots, comprising:
  - a current regulator adapted to generate voltage overshoot waveforms;
  - an oscillator coupled to the current regulator, the oscillator controls the operation of the current regulator; and
  - a programmable delay circuit adapted to control the duration of the overshoot in the voltage overshoot waveforms.

12. The circuit of claim 11 wherein the current regulator comprises a charge pump that is activated by a reference clock.
13. The circuit of claim 11 wherein the programmable delay circuit comprises a chain of inverting devices.
14. A circuit for generating voltage undershoots, comprising:  
a current regulator adapted to generate voltage undershoot waveforms;  
an oscillator coupled to the current regulator, the oscillator controls the operation of the current regulator; and  
a programmable delay circuit adapted to control the duration of the overshoot in the voltage undershoot waveforms.
15. The circuit of claim 14 wherein the current regulator comprises a charge pump that is activated by a reference clock.
16. The circuit of claim 14 wherein the programmable delay circuit comprises a chain of inverting devices.
17. A method, comprising:  
measuring a first frequency and magnitude of quiescent current through a supply line of a device under test;  
injecting voltage overshoots or undershoots into a device under test; and

measuring, while injecting the voltage overshoots or undershoots, a second frequency and quiescent current through the supply line of the device under test.

18. The method of claim 17 wherein the first frequency comprises a pre-stress measurement.

19. The method of claim 17 wherein the first frequency comprises a post-stress measurement.

20. The method of claim 17 wherein the voltage overshoots or undershoots comprise voltage overshoots or undershoots of a predetermined magnitude.

21. The method of claim 17 wherein the voltage overshoots or undershoots comprises voltage overshoots or undershoots of a predetermined duration.